

Cervico-Vaginal Smears

Cytologic Examination

ROBERT HORTON, M.D., *Santa Barbara*

■ *Discrepancies among classification systems of Papanicolaou smears and lack of communication between cytologist and clinician are not uncommon. An attempt should be made by the cytologist to estimate, on a percentage scale, the likelihood of any given smear indicating carcinoma. This enables a more realistic and systematic management of a patient whose smear is other than negative.*

Proper technique in obtaining the smear is essential to proper interpretation, and it must be stressed that a negative smear in a patient with a cervical lesion does not rule out carcinoma. Likewise, a negative smear cannot rule out carcinoma higher in the generative tract.

SINCE 1928, when Papanicolaou first presented his work on the cytologic diagnosis of cancer, cytologists have sifted through a multitude of potential refinements, always with these goals: better ways to obtain material, better ways to stain the cells and, very important, more accurate ways of classifying the resulting interpretation.

Clinicians have coped with a different problem. Discrepancies among classification systems and differences of opinion in what is the correct interpretation, and what is the proper management of a patient with an abnormal smear have perplexed them. This problem will remain until a thorough understanding between clinician and cytologist has come about.

To treat a patient intelligently, a clinician must be armed with concrete information. He must know, for any given classification, for any one specific smear, what is the calculated percentage of accuracy. How often will a Class III smear have *correctly* predicted carcinoma? Then, assured by this firmer footing, the next step follows logically, and he can proceed with confidence. Classifications, therefore, are of value in direct proportion to one factor: How well is the cytologist communicating with the clinician?

Vaginal smears are commonly classified by numbers, I through V, with I and II meaning no evidence of malignant cells; V, almost certain malignant change; III and IV, suspicious, and highly suspicious, respectively. A simpler classification—negative, suspicious and positive—estimates the chances in a given case of the patient's having a malignant lesion; and, unlike the number system, it does not hint at unrealistic accuracy. Therefore, at least 10 per cent of "suspicious" reports will be found to have accurately forecasted malignant cervical changes; "positive" must be taken to mean "100 per cent probability" of malignant change. With this information, the clinician must proceed to prove or disprove malignant disease.

In the "suspicious" group—patients with at least a 10 per cent likelihood of having carcinoma—the patient should be reexamined and a repeat smear taken. If the cervix appears normal and the remainder of the pelvic examination discloses nothing more, and the repeat smear is negative, a third smear should be done in three to six months. But if the second smear is again suspicious, a cone biopsy is indicated. There are several circumstances that would require more individualized consideration as to when and if a conization should

Submitted 6 January 1966.

be done. The patient might be (1) pregnant; (2) young and nulliparous; (3) a poor anesthetic risk; (4) very old; (5) have disease other than gynecologic that carries a poor prognosis.

Technique for Obtaining Smear

The several techniques now used uniformly for obtaining a smear of secretion for examination produce accurate results, but an individual cytologist may have a preference and may feel that one way gives him greater competence in his interpretation. One smear is usually sufficient whether obtained by cervical scraping or sampling the exfoliated cells in the vaginal pool. The vaginal pool method gives a higher proportion of "positives" for endometrial, tubal and ovarian carcinomas.

The technique of preparing the smear is as important as the technique for obtaining it. The material should be spread rapidly—one or two quick strokes—and the slide then should be put *immediately* into a fixative solution. In smears that become dry before being fixed, cells have pale, swollen nuclei, making accurate interpretation more difficult.

When to Take the Smear

Usually the smear material can be taken at any time, although there are some conditions to be avoided or taken into account.

A smear should not be taken during active bleeding (more than usual menstrual flow). In cases of severe vaginitis, profuse leukorrhea may

so dilute a specimen containing malignant cells that a false negative interpretation could occur.

In the post partum period before menses have been reestablished, ovarian function is deficient and parabasal cells predominate in the smear. Differentiating the parabasal from the malignant cell is no problem, but a smear containing cells all of which have large nuclei, all with a reduced nuclear cytoplasmic ratio could camouflage a cluster of malignant cells.

Age at Which Smears Should Be Obtained

Married women should have smears at any age, and also girls in their late teens, especially if they have gynecologic complaints or a family history of cancer. Teenage patients, too, have carcinoma of the cervix; the younger the age at which periodic cytologic examination is begun, the more often will early cervical malignant disease be diagnosed. Ideally, smears should be taken annually. This is especially important for the woman who has reached her late twenties.

Warning

Never can a "negative" smear be assumed to rule out carcinoma. Biopsy of any abnormality of the cervix is mandatory, regardless of the cytologic interpretation of a smear of exudate.

In older patients, abnormal bleeding often indicates carcinoma in the generative tract above the cervix. Since a negative smear does not rule out endometrial carcinoma, other diagnostic procedures should be done.

320 West Junipero, Santa Barbara, California 93105.

